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ABSTRACT

Research conducted at Cornell University over the past decade suggests seven different learning competency factors are more pertinent to ineffective learning at the secondary school and college levels than reading competency. The Cornell Learning and Study Skills Inventory (CLASSIC) was developed to assess these factors, to serve as a means for corrective action in the area, and also to enable individuals to make a self assessment of these factors determined to be critical to learning effectiveness. Each of the seven part scores on CLASSIC covers one of the factors: (1) Goal Orientation, (2) Activity Structure, (3) Scholarly Skills, (4) Lecture Mastery, (5) Textbook Mastery, (6) Examination Mastery, and (7) Self Mastery. A Reading Validity Index is a rather unique aspect of CLASSIC. Eleven pairs of items are designed in such a manner that one item in each of eleven pairs of items is a reversal or partial reversal of the other; so that if the subject marks one item in a certain manner, he must mark the second item in the pair in a reverse manner to have self-agreement. Where there is an absence of self-agreement, the Inventory scores are not considered to be valid. Forms for both secondary and college students are available from Psychologists and Educators Press, Jacksonville, Illinois. Reliability for both forms is in high 80s and low 90s for the 120 items on the inventory. (Author/PF)

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DEVELOPMENT AND STANDARDIZATION OF THE CORNELL LEARNING AND STUDY SKILLS INVENTORY (CLASSIC)

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Research and observations accomplished at the Reading-Study Center, Cornell University, largely during the past decade, suggest that where students have attained secondary school levels of educational development (about 7th grade or more) reading competency, as such, is not particularly critical in the correction of learning problems. The evidence clearly points to seven other factors, all relatively independent of reading competency, which have a critical relationship to the correction of most learning problems at the secondary school and college levels of instruction.

The Cornell Learning and Study Skills Inventory (CLASSIC) is comprised of the seven factors which have been identified and described at Cornell as being pertinent to learning problems. Each of the seven Part Scores on CLASSIC contains one of those factors, and the CLASSIC profile, illustrated in Figure 1, depicts an individuals strength and weakness in those areas:

Part I - Goal Orientation-degree to which a person's life goals are in agreement with present learning activity.

Part II - Activity Structure-degree to which an individual provides a situation conducive for effective study.

Part III - Scholarly Skills-degree to which certain competencies needed for effective study are present.

Part IV - Lecture Mastery-degree to which certain competencies necessary to profit from lecture mode of learning are present.

Part V - Textbook Mastery-degree to which certain competencies necessary to profit from textbook mode of learning are present.

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Part VI - Examination Mastery-degree to which certain skills essential for effective test taking are present.

Part VII - Self Mastery-degree to which an individual is able to deal effectively with self-attitude and situational press.

TOTAL SCORE - Study Efficiency-the sum total of the seven part scores on CLASSIC.

Reading Validity Index (RVI)

This is rather a unique aspect of CLASSIC. It is comprised of 22 of the 120 items which are designed in such manner that an informed observer may readily determine if a subject who has taken CLASSIC has deliberated on the various items, or has simply placed random marks on the answer sheet. The RVI is comprised of eleven pairs of items where one item in each pair is always a reversal or partial reversal of the other one. Thus, if the subject answers one of the paired item as a "1" on the Secondary School Form; to establish self-agreement, he must answer the other item in the pair with a "2". The pairs are so arranged that they form a recognizable pattern on the answer sheet,i.e., items 10 and 11, items 20 and 22, 30 and 33, 40 and 44, 50 and 55, etc. If the sum of the 22 items which comprise the RVI on the Secondary School Form, for example, is greater than 16 or less than 9, it is assumed that all other scores have very little value, that the individual did not deliberate on the items, but that his scores are rather based on random marks on an answer sheet.

Different Forms of CLASSIC

Two different forms of CLASSIC have been developed and standardized: (1) Secondary School Form, and (2) College Form.

Secondary school form. This form is designed primarily for use with secondary school students, but may be used effectively with community college students as well. Three different norms and profile sheets are contained in the CLASSIC Manual for use with this form: Junior High School, Senior High School,

and Community College. Each of the 120 items is based on a "yes-no" scale. All items from the RVI are included in the regular scoring, but the RVI score itself is independent of the Part and Total Scores.

College form. This form contains the same 120 items, generally, but they are phrased in terms of the activity interest of older persons. Each of the 120 items, however, is based on an ordinal scale with positions defined as: seldom, sometimes, frequently, usually, and always. For scoring purposes, the "seldom" position is assigned a value of "1"; sometimes a value of "2", frequently a value of "3", usually a value of "4", and always a value of "5". The 22 items for the RVI are placed in precisely the same pattern as for the Secondary School Form.

Reliability

Reliability indices were computed for many different populations for both forms of CLASSIC during the five year period of the development and standardization practices. Internal consistency reliability indices based on the KR-Formula 20 for the Secondary School Form ranged from and r of .847 to .925, and for the College Form from .831 to .896. Test stability reliability indices based on an odd-even item Pearson r with the Spearman-Brown correction for the Secondary School Form ranged from .818 to .913, and for the College Form from .817 to .913.

Homogeneity of Part Scores

The data contained in Table 1 illustrated the intercorrelations for the Part and Total Scores on CLASSIC-Secondary School Form for junior high school students when the records for noneffective readers have been eliminated from the data (RVI scores above 16 and below 9). Only six of the 21 Part Score Pearson r's for intercorrelations are below .20, and five of the six are with PART VII - Self Mastery, which we expect to be quite different from the rest. None of the Part Score intercorrelations are above .50. It is generally agreed

that part score intercorrelations in the 30's are ideal.

Factor Validity

The data contained in Table 2 illustrates seven factors extracted from the seven Part Score intercorrelations for 1172 junior high school students on CLASSIC-Secondary School Form, and with the scores of noneffective readers eliminated.Computations were based on the centroid method with the extracted factors rotated orthogonally to obtain simple structure. It is evident from the data that seven independently organized factors are present in agreement with the Part Scores indicated in the CLASSIC Manual. That each of the seven factors is relatively pure can be seen from loadings above .900 for every one, and with no other significant loadings present.

Status Validity

The data contained in Table 3 illustrates information concerning the status validity of CLASSIC-Secondary School Form for 477 junior high school students from New York and Wisconsin who took the Inventory as a portion of their regular school offerings. A multiple R_c which was corrected for shrinkage of .434 was obtained between the seven Part Scores on CLASSIC and the Grade Point Average (GPA) for the 477 junior high students. This study suggests that students with high GPAs tend to have high scores on CLASSIC. It is of interest to note that Part VII -Self Mastery score contributed the greatest common variance to high GPA, or about .345 of the total. It should be noted from the same table that the CLASSIC scores are not related significantly to the junior high school student"s age, and only at the 5 per cent level of confidence to the sex of students(1 = male and 2 = female).

Proposed Uses for CLASSIC

CLASSIC is intended to be used for purpose of individuals making a self assessment of factors determined to be critical to learning effectiveness. The CLASSIC profile based on Ms for individual class groups may well serve as the basis for learning activities designed to develop such competencies as the

learning activity planned for language arts teachers. Quite similarly, the profile of an individual may be used by individuals for their own self corrective learning activity. A video tape is available from the same publisher which is designed to help individuals understand the siginficance of the various factors included in CLASSIC, and depicted in the CLASSIC profile.

The CLASSIC profile may be used as a basis for discussion in planning learning activities concerning the factors necessary for effective learning. The RVI score may be used as an excellent means for identifying those persons who deliberate on learning assignments, and may well serve as the basis for meaningful discussions in that area. Personal deliberation is a necessary requisite for meaningful learning in any area, and the CLASSIC RVI serves as a valid indicator of whether or not such deliberation was present for one sample of behavior for the subject taking the Inventory.

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HIGH SCHOOL PROFILE FOR
THE CORNELL LEARNING AND STUDY SKILLS INVENTORY-SECONDARY

(N=1163: 470-10th, 431-11th, & 262-12th)

T-Score	I Goal Orientation	II Activity Structure	III Scholarly Skills	IV Lecture Mastery	V Textbook Mastery	VI Examination Mastery	VII Self Mastery	TOTAL STUDY EFFICIENCY	Reading Validity Index	S.D. Score
80	13	15+	18+	15+	20+	15+	15+	95 to above	22	
75	13	14	17	14	19	14	14	85 to 94	NON	++
70	12	13	15-16	13	18	13	13	75 to 84	EFFECTIVE	-
65	11	12	13-14	12	17	12	12	71 to 74	READERS	
60	10	11	11-12	11	15-16	11	11	66 to 70	16	+
55	9	9-10	10	10	13-14	10	10	63 to 65	15	0
50	8	7-8	8-9	8-9	10-12	9	8-9	59 to 62	14	
45	7	5-6	6-7	6-7	8-9	7-8	6-7	55 to 58	12-13	0
40	6	4	5	5	5-7	6	5	51 to 54	9-11	
35	5	3	4	4	4	5	4	47 to 50	NON	-
30	3-4	2	3	3	3	3-4	3	43 to 46	EFFECTIVE	-
25	2	1	2	2	2	2	2	22 to 42	READERS	--
20	1	0	1	1	1	1	1	0 to 21		
Mean	8.61	6.53	7.56	8.73	11.82	8.61	7.64	58.90	13.05	Mean
SD	1.64	1.95	1.75	1.19	3.95	1.66	1.47	7.64	2.02	SD
Student Score										Student Score

Student Name/Number_____ Date_____ School_____

Figure 1. CLASSIC Profile for High School Students.

TABLE 1

Intercorrelations for Part and Total Scores on CLASSIC-Secondary School Form with the Noneffective Reader Records Eliminated

(N=1172-(RVIs above 16 and below 9 eliminated)

CLASSIC Scores	(1)	(2)	(3)	(4)	(5)	(6)	(7)	RVI	TOTAL
1. PART I - Goal Orientation		.368	.315	.179	.338	.202	.033	.331	.534
2. PART II - Activity Structure			.498	.322	.401	.236	.173	.450	.753
3. PART III - Scholarly Skills				.395	.469	.324	.045	.474	.774
4. PART IV - Lecture Mastery					.338	.258	.054	.506	.625
5. PART V - Textbook Mastery						.352	.038	.382	.765
6. PART VI - Examination Mastery							.237	.510	.704
7. PART VII - Self Mastery								.425	.693
8. Reading Validity Index(RVI)									.625
TOTAL SCORE CLASSIC-Secondary Study Efficiency									
Mean	9.11	9.22	8.68	7.69	10.99	7.54	8.89	13.60	60.40
SD	1.57	2.51	3.01	2.29	3.28	2.06	2.86	2.00	10.03

TABLE 2

Centroid Factor Analysis Orthogonally Rotated Factors for CLASSIC-Secondary School Form for Junior High School Students

(N-1172-(RVIs above 16 and below 9 eliminated)

CLASSIC Scores	Centroid Rotated Factors I	II	III	IV	V	VI	VII	Communality h_r^2	h_c^2
1. PART I - Goal Orientation	.059	.006	-.<u>967</u>	.077	.153	.135	.115	1.00	1.00
2. PART II - Activity Structure	.136	.091	-.170	.081	.<u>930</u>	.162	.215	1.00	1.00
3. PART III - Scholarly Skills	.180	.004	-.132	.140	.225	.202	.<u>916</u>	1.00	1.00
4. PART IV - Lecture Mastery	.<u>963</u>	.017	-.060	.105	.124	.132	.157	1.00	1.00
5. PART V - Textbook Mastery	.144	.002	-.150	.159	.162	.<u>932</u>	.193	1.00	1.00
6. PART VI - Examination Mastery	.106	.122	-.078	.<u>962</u>	.075	.146	.123	1.00	1.00
7. PART VII - Self Mastery	.016	.<u>991</u>	-.006	.111	.075	.002	.005	1.00	1.00

TABLE 3

Stepwise Multiple Correlation of CLASSIC-JH

Part Scores with GPA, Age, and Sex

(N=477)

CLASSIC-JH Part Scores	Grade Point Average Step & Variable	R_c	Student Age Step & Variable	R_c	Student Sex Step & Variable	R_c
1. Part I- Goal Orientation	3	.428	3	(.030)	7	(.172)
2. Part II- Activity Structure	7	(.434)	7	(.030)	3	(.172)*
3. Part III- Skills of Study	5	(.434)*	1	.030	5	(.172)
4. Part IV- Lecture Mastery	2	.405	2	(.030)*	1	.167
5. Part V- Textbook Mastery	6	(.434)	4	(.030)	6	(.172)
6. Part VI- Examination Mastery	4	.434	6	(.030)	2	.172
7. Part VII- Self Mastery	1	.345	5	(.030)	4	(.172)

An R of .150 or better is statistically significant at the .05 level

An R of .181 or better is statistically significant at the .01 level

* when R is corrected for shrinkage, adds no more to existing correlation